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By-Whitfield, Edwin A.; Glaeser, George A.

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The demonstration phase of Project VIEW (Vital Information for Education and Work) was designed to enable school counselors and administrators to familiarize themselves with the operation of the Regional Career Information System. VIEW provides information on 200 occupations requiring less than a baccalaureate degree. Objectives of the study were: (1) to provide occupational information on local job opportunities, (2) to show how students can utilize information, (3) to illustrate how one system can meet the needs of rural and urban youth, (4) to encourage students to discuss career information at home, (5) to demonstrate a process by which counselors can use information to aid noncollege bound youth, (6) to disseminate information detailing the services and results of this project, and (7) to demonstrate the services of this system to other areas. Data was obtained from three experimental and three control groups. Conclusions indicate that: (1) providing good information does not assure its effective use by counselors and staff, (2) the approach, utilized by this system, to information dissemination is well liked by students, and (3) parents play a major role in students' educational and career planning. This project was founded under provisions of Title III of the Elementary and Secondary Education Act. (IM)

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A DEMONSTRATION OF A REGIONAL CAREER INFORMATION CENTER

THE VIEW SYSTEM

A Summary of Research Results 1967-68

EDWIN A. WHITFIELD
GEORGE A. GLAESER

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INTRODUCTION

In recent years, with the advent of increased support through federal funding, several information systems dealing with occupational information and aimed at alleviating some of the criticisms of occupational materials used in the schools have been initiated throughout the country. The use of computer technology in providing occupational information is currently being investigated by the Harvard Information System for Vocational Decisions (Tiedeman, et al., 1967) and by Impellitteri (1968) in his research with junior high school students

Using a somewhat different approach, Martin (1966) has developed a number of slide-tape presentations for secondary school students which were created to explore the potentials of certain kinds of occupational information for developing attitudes toward, and understanding of, work sequences. Materials developed to date are being tested against various theoretical considerations upon which they were based.

While Martin has taken a theoretical approach, the Atlanta Public Schools System (Letson, 1967) is approaching the provision of suitable occupational information in grades three through eight from an empirical basis. The formulation of perceptual models will be based on the responses of pupils to occupational briefs and to other prepared materials.

Project VIEW

In 1965 the Department of Education, San Diego County, in response to needs expressed by the local Coordinating Council for Vocational Education submitted a proposal to establish a Regional Career Information Center to serve high school and junior college students. The rationale, development, and process of this center has been reported in detail earlier (Pierson et al., 1967), (Gerstein and Hoover, 1967), (Hoover and Whitfield, 1968). For purposes of clarity the major emphases of this program will be briefly repeated here.

During the initial phase of the project a needs assessment was undertaken to determine the type of career information desired by students and counselors and to devise appropriate procedures to disseminate the information to local schools. Extensive use was made of student reactor panels, advisory committees and questionnaire techniques. At the termination of this initial phase a model system had been designed to collect, abstract, synthesize, produce, store, and disseminate career information in the secondary schools of San Diego County.

The system selected was a system based on the use of the microfilm aperture card. Expendable elements in this system are inexpensive, can be easily updated and filed, and can be utilized directly by students and counselors at the school site as well as the center itself. In addition, it is possible to key punch into the aperture card parameters pertinent to the specific occupation.

The microfilmed materials can be used with either a microfilm reader-printer or a reader-scanner. On the reader-scanner a student can read the information contained on an aperture card as he projects it on a

viewing screen. If he is interested in the occupation and wishes to study it further or discuss it with his counselor or parents, he can use the reader-printer to take a printout of the information on 8½- by 11- inch paper.

The main body of information for each occupation, prepared in a standardized seven-page format, was derived from student questionnaires. The briefs are converted into microfilm on two aperture cards, one containing statewide and the other local information for a particular occupation. Two hundred seven-page descriptions were developed, all dealing with jobs requiring less than a baccalaureate degree. A standardized heading was chosen--the acronym VIEW (Vital Information for Education and Work), and the briefs were referred to as VIEWscripts.

Demonstration Phase - July 1967 to July 1968

The demonstration phase of Project VIEW was designed to enable all school counselors and administrators in San Diego County to become thoroughly informed on the services of the Regional Career Information Center. The center also served during this time as a model for other geographic regions wishing to establish a similar service. The objectives of the developmental phase were:

1. To continue to provide secondary school students with current occupational information on local job opportunities.

2. To demonstrate how students could investigate on their own many occupational fields and receive printed information they could study and retain.

3. To illustrate how one basic occupational information system can be adapted to meet the needs of students from both small rural and large urban school populations.

4. To encourage students to discuss occupational information with their parents.

5. To demonstrate a realistic process by which counselors, who by training and experience are most often oriented toward working with college-bound students, could utilize materials and information to aid non college-bound youth.

6. To disseminate information detailing the services and the results of this program.

7. To demonstrate the services provided by the San Diego County Career Information Center to the educational, business, civic, and cultural communities in San Diego County and the State of California and throughout the nation.

Procedures

The objectives of the project were accomplished through the dissemination of career information in public and nonpublic, nonprofit school districts of varying size in San Diego County. The demonstration program involved:

1. Demonstration of this exemplary method of providing occupational information in schools of varying size.

   A. Schools of Average and Large Size (500 - 3500 ADA). Eight secondary schools of average and large size were supplied with the microfilm aperture card files, a DuKane Microfilm Reader and a Filmac 400 Microfilm Reader-Printer.

   B. Eight Additional Schools of Average to Large Size (500 - 3500 ADA). Eight additional schools of average and large size were supplied with printed copies of all materials provided to the other schools in the form of microfilm aperture cards. These printed materials were contained in a separate occupational file to be used by the students and counselors in these eight schools.

   C. Small Schools (less than 500 ADA). Four secondary schools with an average daily attendance of less than 500 pupils were supplied with an aperture card file containing the complete occupational information collected and prepared by the center. These schools were also provided with a DuKane Microfilm Reader to allow the students and counselors to read the information contained in the microfilm aperture card.

   D. Control Schools. Eight additional secondary schools of the same size as the schools in Groups A and B above (500 - 3500 ADA) were identified as control schools. These schools progressed through the year with the occupational information typically found in their school's occupational information files.

2. Continuation of the collection of current economic information. This information was reviewed, synthesized, and presented in the standard VIEWscript format.

3. A survey of tenth grade students' occupational development, education and career goals, job values, and related items was conducted.

Evaluation

The purposes of the evaluation design were threefold and interrelated.

1. First, an evaluative study using experimental and control groups was conducted. This evaluation was accomplished by having each student complete an evaluation card just before and immediately after he used the VIEWscripts. The evaluation focused upon the format, the content of the information, and the dissemination procedures.

2. The second purpose of the evaluation survey selected tenth grade students at the conclusion of the demonstration to explore such aspects of their vocational development as:

   A. The status of their vocational choice in grade ten.

   B. Their awareness of their interests, abilities, and other characteristics and the relationship of these to their goals.

   C. The information and aids they utilized during the year.

   D. The extent of their investigation in arriving at their particular point in their vocational development.

3. The third purpose was to provide all school counselors in San Diego County with pertinent vocational information on each of their entering tenth grade students through the use of a questionnaire at the beginning of the demonstration phase. Consequently, combining the results of the more general vocational values survey described in number two above, and the more specific information identified for each individual tenth grader, the counselor would be able to evaluate local school-wide vocational guidance programs and also be better prepared to work individually with students concerning their vocational choice and adjustment.

Results

Student Reaction. Students in the three experimental groups were asked to compare the helpfulness, understandability, realism, interest, completeness, and currency of the VIEW materials with those they had used in the past. Table 1 presents the mean ratings of the students in the three groups with the VIEW materials and the occupational information they previously experienced.

In all instances in Groups A (schools having microfilm aperture card deck and full equipment) and B (schools having printed copies of the VIEW materials only) the VIEW materials received a higher rating than other vocational materials. Similar increases were found in Group C chools (schools having the microfilm reader and microfilm aperture card deck only) with the exception of an identical rating given to the completeness of the two types of information. Statistical analyses presented in Tables 2 and 3 for the students having microfilm readers and reader-printers (Group A) and those having the printed VIEWscripts only (Group B) emphasized the higher ratings given to the VIEW material. The difference between the ratings given by students in both groups were significant at the .0001 level. The size of a sample in Group C (microfilm readers only) prevented a similar statistical analysis for students having only the microfilm reader.

When students in the three groups were asked how well they liked the overall method of presentation of the VIEW materials all gave a higher rating to the materials regardless of the dissemination media. Students

TABLE 1

UTILIZATION AND EVALUATION OF OCCUPATIONAL MATERIALS*

	Group 1 mean (N=981)	Group 2 mean (N=281)	Group 3 mean (N=34)
Helpfulness of Previous Information	3.28	2.93	3.74
Helpfulness of VIEW Information	3.78	3.54	3.76
Understandability of Previous Information	3.52	3.25	3.47
Understandability of VIEW Information	3.90	3.92	4.00
Realism of Previous Information	3.57	3.34	3.91
Realism of VIEW Information	3.91	3.87	4.03
Interest level of Previous Information	3.53	3.31	3.59
Interest level of VIEW Information	3.79	3.75	3.88
Completeness of Previous Information	3.50	3.15	3.88
Completeness of VIEW Information	3.80	3.73	3.88
Currency of Previous Information	3.59	3.24	4.09
Currency of VIEW Information	3.93	3.96	4.15
How well did you like the Overall Method of Presentation of the VIEW materials	3.98	3.80	4.09

* 1 = Not at all 2 = Slightly 3 = Moderately 4 = Very Much 5 = Extremely

NOTE: Students were asked to respond to these questions only if they had previous experience with occupational information.

TABLE 2

ANALYSES OF DIFFERENCES OF STUDENT REACTIONS BEFORE AND AFTER USING VIEW MICROFILM MATERIALS
(EXPERIMENTAL GROUP #1 - EQUIPMENT SCHOOLS)

	N	$\bar{D}$	s_D	z*	Sig. Diff. P
elpfulness	879	0.488	1.203	12.024	< .0001
nderstandability	849	0.284	1.139	7.245	< .0001
ealism	832	0.291	1.112	7.545	< .0001
nterest	813	0.255	1.199	6.052	< .0001
ompleteness	825	0.303	1.194	7.291	< .0001
p to date	838	0.290	1.244	6.750	< .0001

R: $z \geq +4.00$ and $z \leq -4.00$

TABLE 3

ANALYSES OF DIFFERENCES OF STUDENT REACTIONS BEFORE AND AFTER USING VIEW PRINTED MATERIALS
(EXPERIMENTAL GROUP #2 - PRINTOUT SCHOOLS)

	N	$\overline{D}$	s_D	z*	Sig. Diff. P.
Helpfulness	269	0.669	1.379	7.959	< .0001
Understandability	261	0.732	1.332	8.877	< .0001
Realism	258	0.562	1.360	6.637	< .0001
Interest	254	0.504	1.458	5.510	< .0001
Completeness	249	0.606	1.411	6.784	< .0001
Up to date	251	0.721	1.487	7.685	< .0001

*R: $z \geq +4.00$ and $z \leq -4.00$

having the microfilmed materials did, however, give a slightly higher rating to the VIEWscripts than those having only printed copies of the same materials.

Counselor and Teacher Reaction. Counselors and teachers in the schools included in Groups A and B were also asked for their reactions to the VIEW materials used in their schools. Questionnaire returns were received from fifty-five faculty members in Group A while twenty-seven returns were received from Group B. Approximately 50 percent of the respondents were school counselors. The reactions to the materials, like those of the students, were extremely favorable. Slightly over 60 percent in both groups estimated the use of the VIEW materials motivated students to continue their occupational exploration by using additional vocational materials contained in the school files. Seventy-nine percent of the Group A respondents and 68 percent of those from Group B said an increase in participation and/or interest in the guidance program by the total school staff had occurred since VIEW was initiated in their schools. An increase in the effectiveness of the vocational guidance program was perceived by 96 percent of the staff in Group A and by 86 percent in Group B. Finally over 80 percent in both groups indicated that the VIEW materials had been used by teachers in classroom activities.

Vocational Survey Questionnaire

A 10-percent sample of the students who had answered the Educational and Vocational Planning Questionnaire administered in October completed the Vocational Survey Questionnaire in April of 1968. This survey questionnaire was administered to students in the three experimental groups and the control group. The chi square statistic was used in analyzing the differences in the percentage of responses of students of various experimental and control groups. The hypothesis under consideration was the null hypothesis, that is, there are no differences between the responses of the students in the various groups. With few exceptions all differences were non-significant, that is, few differences were perceived in the answers of the students to the questions on the vocational survey questionnaire regardless of the group.

Generally, responses of interest (all students regardless of group) were:

43.0 percent said no one helped them in arriving at their choice of a level of occupation.

62.3 percent had not used occupational information during the current school year.

40.3 percent never used occupational information or did not even know of its existence.

55.5 percent first started thinking about their choice of an occupation in junior high school.

28.5 percent first started thinking about their choice of an occupation in senior high school.

2.3 percent viewed the counselor or teacher as an influence on their choice.

47.4 percent never discussed occupational information with their counselor.

76.6 percent seldom or never discussed occupational information with their counselor.

58.6 percent never discussed occupational information with their teacher.

91.0 percent [redacted] discussed occupational information with their parents.

51.5 percent indicated no knowledge of what aptitude tests and interest inventories indicated concerning their future plans.

51.1 percent said they had not discussed their plans with either a junior high or high school counselor.

63.9 percent said they agreed quite well with their parents on their plans for the future.

Finally, a majority of the students, if given the opportunity to start over again, would change their present course of study with enrollment in general education and college prep general program decreasing while enrollment in all other courses of study would increase.

Educational and Vocational Planning Questionnaire

The Educational and Vocational Planning Questionnaire was completed by 17,152 tenth grade students in all public secondary schools in San Diego County in October of 1967. Answers were recorded on both mark sense machine record cards and the questionnaire itself. This enabled the Data Processing Section of the San Diego County Department of Education to tabulate the results and at the same time the completed questionnaires were retained by the counselors for their use until the computer printouts were received. Results were given to schools reporting individual student responses by name to each of the questions and total numbers and percent for each item by school district and by total county. High school districts having more than one high school received an additional district summary showing the number and percent of responses for each item by school. From the results of the questionnaire, information was made available to school personnel concerning such items as student mobility, preference for a future place to work, interest in different areas of curriculum, preference for types and levels of work, self perceptions concerning abilities and interests, amount of certainty concerning their choice of a course of study, work values, plans for future education and training, and their need for additional help in career planning.

Generally, it was found that most students would prefer to remain in Southern California and particularly in San Diego and that the interests of all students are spread fairly evenly across all curricular areas with music, fine arts, physical education, and science being preferred by a slightly larger percentage of students than other curricular areas. Similarly, interests in types of work were also evenly distributed across many fields with outdoor type work and work in which the student could be of direct service to people receiving higher percentages than the other groups. Related to this was the indication by these students of their strongest abilities with an even distribution throughout most abilities but with physical abilities and social abilities receiving the higher percentages thus reinforcing the higher percentages in the outdoor type of work and the work in which students can be of direct service to people. It should be pointed out, however, that almost one-half (46.1 percent) of the students were a "little" or "very uncertain" that these were in fact their strongest aptitudes. Most students were "somewhat" or "very sure" (78.4 percent) that their present choice of a course of study was the right one. When asked their work values the students indicated the following values they were seeking in work:

An interesting job (20.3 percent)

A job where they could express feelings, ideas, talents, or skills (21.3 percent)

A job where they could help other people (19.0 percent)

A highly paid job (12.2 percent)

Many of the tenth grade students in San Diego County had as their first choice of career a professional or technical occupation (37.8 percent) while clerical-sales occupations (15.2 percent) were next, followed by service occupations (14.0 percent). When asked the same question concerning their father's occupation it was noted that professional-technical occupations were highest (24.2 percent) but slightly lower in percentage than the students themselves were seeking. These again were followed by clerical-sales occupations (13.0 percent) and service occupations (13.0 percent). It appears that many students have set their occupational goals higher than the present occupational levels of their father or heads of household.

The advantage of the availability of post-high school education in San Diego County was evident from the students' responses to their plans for the future. In total, slightly over 67 percent of the sophomores in San Diego County intended to take advantage of the post-high school opportunities offered within the county. Finally, when students were asked if they did need help considering their educational plans over 62 percent said they could use some additional or considerable help in figuring out their career plans and slightly over 17 percent said they needed considerable help in these matters.

Discussion

Generally, little discussion is needed of the evaluations of the students as derived from their answers immediately before and after using the VIEW materials. The VIEW materials, whether microfilmed or printed, are rated

highly by students. The increase in the number of users in Experimental A schools as compared to the Experimental Type B schools indicate that the microfilm approach does have value in motivating students to use occupational information. The motivational value of providing "good" information regardless of media was also emphasized by the large percentage of users in all three experimental situations who indicated little or no previous utilization of occupational information.

The lack of differences between the experimental groups and the control group on the vocational survey questionnaire was disappointing. It was noted that over 60 percent of the students regardless of the type of group did not use occupational information during the school year. When one considers the extent of the emphasis in the Experimental Type A schools with the VIEW equipment and materials as well as in the Experimental Type B and C schools, it is apparent that a difference might be expected due to this increased emphasis in these schools. Also when one considers the demand over the past decade for occupational information which is current, interesting, readable, and complete, the lack of use of this occupational information in light of high rating by students and counselors given to the VIEW materials is very puzzling. Apparently it is much more than a lack of good occupational information which has limited its use by counselors and students in the school situation.

Equally disturbing was the utilization of occupational information in cooperation with the counselor by less than half of the students and by less than 20 percent of the students on anything more than a rare occasion. Also there was very little interaction regarding occupational information with teachers in these twenty-eight schools and again no differences were evident between the experimental groups emphasizing the use of occupational information and the control situations where a less idealistic situation was in evidence regarding the dissemination and use of occupational information. It is interesting to note, however, that the use of occupational information in discussion with parents was utilized by students a much greater percent of the time than with counselors and teachers. It is apparent that these students seek more aid and counseling in career decisions at home than they do in the schools.

In view of the perceptions of the faculties in both Experimental Group A and Group B concerning many of these analyses, especially regarding the use of other occupational information by the students, the participation and interest by the total school staff in the guidance program and the effectiveness of the vocational guidance program, it is interesting to note the students' perceptions concerning similar aspects of the school program, especially vocational guidance. Approximately 50 percent of the students regardless of group did not use occupational information at all during the school year and few of the students indicated it was the classroom teacher who referred them to a school counselor. Also a majority of the students said they had not seen a school counselor during the school year and a very small percentage indicated they had seen a counselor more than once. It is apparent that a discrepancy exists between the perceptions of the faculty, and in particular the school counselors, as to their effectiveness in the use of their service and materials by students and the perceptions of the use of these services and materials held by the students.

Conclusions

The major conclusion drawn from this study is obvious. The provision of "good" occupational information and specific personal information concerning the students in the schools does not assure its most effective use by the counselors and the staff. Students who used the VIEW materials in all three of the experimental situations gave this information a high rating and yet it was used by a small percentage of the student body. In addition, the information provided to the school counselors and administrators concerning the vocational decisions of students and their need for assistance did not result in more frequent aid being provided by the school staffs to the students indicating such a need.

The second major conclusion of the study is that the VIEW concept of disseminating occupational information is well liked by the students. The majority of the students who used the VIEW system in the schools having the full equipment and microfilm aperture cards had not used occupational information previous to this year. Apparently the microfilm approach does motivate students to seek information concerning the world of work.

It can also be concluded from the results of the questionnaires administered that parents play a major role in the educational and career planning of students. Students consistently indicated they had interactions with their parents concerning these decisions and that they were in agreement with their parents concerning career plans.

The evaluation of students in ranking VIEW materials, not only in microfilm aperture card form but also in printed copy, indicated that the VIEW approach to occupational information itself is viewed favorably by the students. When one combines the favorable reaction of the counselors and students to these materials in conjunction with the fact that the microfilm aperture card facilitates storage and retrieval and allows for continuous updating of the information, it is evident that the system developed by the San Diego County Department of Education Career Information Center holds promise for utilization in school systems throughout the nation. This is emphasized by the development of similar systems utilizing the VIEW microfilm aperture card approach and the VIEWscript format and content in various geographic locations throughout California and the nation.

The results of this and past studies of the VIEW concept of disseminating occupational information and the content of the VIEW materials themselves have clearly shown the quality of this information. Of more importance and less clearly evident is the effective use of this information in the vocational choice and adjustment of students. Several recommendations and implications are offered:

1. Further efforts of the Career Information Center should be directed toward research involving the place of VIEW in the total school program emphasizing its relationship to other aspects of the school guidance program and the total school curriculum.

2. The emphasis of the inservice training programs in the school districts of San Diego County for both guidance personnel and the school staff in general should be directed toward improving the vocational guidance skills of these personnel. Specific attention should be placed on the effective use of both vocational and personal information in both group and individual counseling situations with students and the knowledge and techniques needed to more effectively assist students in improving their decision-making skills.

3. The findings of the infrequent interaction between counselors and students (regardless of goals) indicates a need for re-assessment of the duties and functions currently being carried out by the school guidance staffs.

4. The major role played by parents in the educational and career choices made by the students clearly shows the need for school counselors and teachers to work closely with the home in these and other matters. It is generally recognized that the training and skills of school counselors places them in an excellent position to aid students in their career decisions yet, as shown, the use of this person with his unique knowledge and skills was generally ignored by the students in favor of their parents who usually do not have the necessary knowledge and information to aid the student to choose from the widest possible range of opportunities. By working closely with parents both individually and through groups, the counselor will be able to increase the competencies of the parents in their knowledge of the various alternatives and intervening variables needed for appropriate vocational choices. By combining with the home and the classroom teacher the school counselor can provide the student with a team approach in dealing with his vocational choice and adjustment. Consequently the student will recognize more often the availability of assistance and the interest of teachers, parents, and counselors in aiding him with the educational, vocational, and personal decisions which must be faced during the secondary school years. The printout capabilities of the microfilm reader-printer and its use by the students are especially vital to the involvement of parents as a knowledgeable and equal partner with the school in assisting in the vocational choice and adjustment of their children.

5. The favorable reaction of students in the small rural schools having only a microfilm reader to use with the VIEW materials, however, clearly shows that the presence of the more expensive reader-printer is not essential to the basic utilization of the VIEW concept. Therefore whenever it is impossible for a school to implement the full VIEW system (e.g., reader-printer), provisions should be made for the purchase of the less expensive microfilm

readers as the preliminary step in making these materials available to their students. The positive reaction to the use of the reader alone and considering its relative inexpense also makes the dispersion of such readers throughout the school highly feasible. The presence of readers in various classrooms throughout the school along with decks of the microfilm aperture cards would allow the students to see immediately the utilization of many of the subject areas he is currently studying. Such a dispersion of the occupational information would also add to the concept of the teacher and counselor as part of a team in providing guidance services to the students.

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